<u>Abstract</u>

A method for determining the chemosensitivity of cells towards at least one substance by measuring the apoptosis induced by said at least one substance, wherein the apoptosis is determined from the accumulated caspase activity of a sample comprising cells and a medium by adding said at least one substance to the sample followed by incubation, and measuring the accumulated caspase activity in the sample upon disruption of the cells without previously separating off the cells.